Project C: Reactive Chemistry

Presented by Helena Whyte

Core Members

- Lydia Boada-Clista, DOE Ohio Field Office
- David Freshwater, SAIC
- JC Laul, Los Alamos National Laboratory
- Dan Marsick, DOE EH-52
- Dave Quigley, Y-12 National Security Complex
- Fred Simmons, Washington Savannah River
- Helena Whyte (Chair), Los Alamos National Laboratory

Manuscripts Completed Over Last Two Years

- Management of Time Sensitive Chemicals Part 1: Misconceptions Leading to Incidents

  Published Chemical Health and Safety, September/October 2004

- Management of Time Sensitive Chemicals Part II: Their Identification, Chemistry, and Management

  Published Chemical Health and Safety, November/December 2004

- Management of Time Sensitive Chemicals Part III: Stabilization and Treatment

  Published in Chemical Safety & Health, January./February 2006

Manuscripts Completed in Past Year

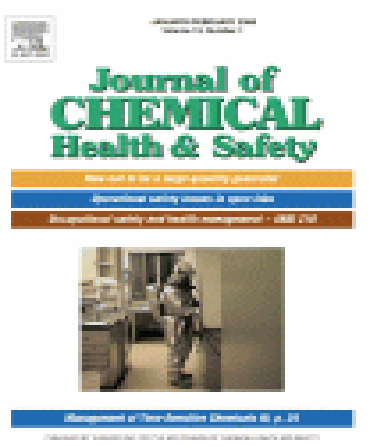
- Use and Misuse of Chemical Reactivity Spreadsheets

  Publication Pending

- Determining Health Hazard Ratings when no Toxicological Data is Available

Time Sensitive Chemicals III

- Management of Time Sensitive Chemicals Part III: Stabilization and Treatment
- Published in Chemical Safety & Health Jan./Feb. 2006



Stabilization and Treatment

- Identify potential hazards
- Determine how to mitigate
- Identify and procure equipment and reagents
- Work planning
- Training, experience, and qualifications

Use and Misuse of Chemical Reactivity Spreadsheets

- Peer reviewed and accepted for publication in Chemical Safety and Health

EPA-600/2-80-076 April 1980
A METHOD FOR DETERMINING THE COMPATIBILITY OF CHEMICAL MIXTURES

No.	Reactivity Group Name		
1	Acids, Mineral, Non-oxidizing	1	
2	Acids, Mineral, Oxidizing		2
106	Water and Mixtures Containing Water	H	H

Legend

Code	Consequences
H	Heat Generation

Highlights

- Accurate hazard identification critical to any safety program
- MSDS Limitations
- Chemical Reactivity Worksheets
- Short, Consolidated Spreadsheets
- Reactivity Matrices

How Hazards Misidentified

- Assumptions
- Hazards Not Identified
- Binary Mixtures
- Three or more component interaction

Determining Health Hazard Ratings when no Toxicological Data is Available

- Importance of Health Hazard Rating
  - Emergency Planning
  - Worker Protection

EH Chemical Safety Website

- Copies of Manuscripts Available at

  http://www.eh.doe.gov/chem_safety/bmgtprac.html

  Under CSTC DOcuments